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ABSTRACT

This study investigated a child's development of the concept that a word is a unit used to express meaning. Thirty children, selected at random from grades one through six, were chosen from a school where no exclusive method of teaching reading was used. Each child participated in two tasks. First, a list of nouns was presented in written form and the child rated 24 words as known and 24 words as unknown. A word-choice task followed, in which the child explained how chosen words went together for him or her. Children gave significantly more semantic responses if either the question word or the choice word was known and if the word was in oral form rather than written. The research data suggest that children who are reading in school tasks would benefit from greater understanding and use of metalanguage. (MAI)

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Children's Explanations of Word Similarities in Relation to Word Knownness

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Recently a kindergarten student in an upper-middleclass neighborhood outside of Chicago asked a researcher how to spell the word house. She attempted to solicit help three different ways:

> "I think I need some help drawing the other letters to house. I got H-O."
>
> "How's the other half of house spelt?"
>
> "H-O--I think A is next but I don't know. I can't get the other words to house in."

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Researchers have been gathering evidence over the past few years that young children beginning to learn to read do not have a very firm grasp on the meanings of linguistic terms which are used in school instruction; they do not use metalanguage, or language referring to linguistic units and functions, very accurately (as illustrated above and in Downing & Oliver, 1974; Ehri, 1975, 1976, 1977; Holden & MacGinitie, 1971; Mickish, 1974; Karpova, 1955; Papandropoulou & Sinclair, 1974; and Tovey, 1976).

One important metalinguistic concept for beginning readers is that of "word." Is a word to a beginning reader primarily a structural unit of letters and/or sounds? Or is it a unit which can enter into syntactic arrangements? Or is it primarily a unit to which people assign meanings, a semantic unit? Do children respond differently to written words than to oral words? Do they respond differently depending upon whether or not the word is known to them in written form? It is true that, once words are learned in written language, it is possible to direct children to attend to different aspects of words, such as the phonology or the orthography of the words, the syntactic arrangements words can enter into, or the semantic functions words can play (Gibson, 1971; Mason, 1976a, 1976b). A number of

researchers (Golinkoff & Rosinski, 1976; Rosinski, Golinkoff, & Kukish, 1976; and Wickens, 1970, 1972) have contended that, while children can be directed to attend to phonological and syntactic aspects of words, semantic aspects take precedence in the child's developing concept of "word."

The present study investigated the child's development of the concept that a word is a unit used to express meanings (it also investigated the meta-language used by the children during the experimental task). Pilot studies had indicated that younger children tend to think of words in written language primarily as structural units of letters and/or sounds and that older children think of words in written language primarily as semantic units.

In the pilot studies and in previous studies into the development of semantic notions (Anglin, 1970; Naron, in press), the same words were used for all subjects. The pilot studies, design and measurement theory (Clark, 1973), developmental theory (Brown, 1975) and developmental research (Richman, Nida, & Pittman, 1976) indicated that the sample of linguistic units should be as carefully selected as the sample of human subjects; the sample of linguistic units (here, of words) should take into account the subject's

prior knowledge of the units. For these reasons, it was considered necessary to identify and use words which the children in the study rated as known and unknown in written language.

Method

Thirty children each from grades one, two, four, and six were chosen at random from an elementary school in a rural Virginia county. In this school system no one method of teaching reading was used to the exclusion of other methods, and students were placed in classrooms using chronological age as the primary criterion under a continuous progress model. Achievement and ability scores in the county averaged below national norms; however, the range of scores was equivalent to the national range. The racial breakdown of students (75% black and 25% white) was within 5% of the population totals for the county.

Each child took part in two tasks: a Knownness Rating in which his or her words were selected and a Word Choice task in which the child explained how chosen words went together for him or her. The words for the Knownness Rating came from words lists of nouns chosen at random from four sources: Harris & Jacobson core

words for first grade (Harris & Jacobson, 1973); Sheldon basic reading series (1968); Clarence R. Stone's revision of the Dale list of 769 easy words (Spache, 1968); and The teacher's word book of 30,000 words (Thorndike & Lorge, 1944). The American heritage dictionary of the English language (1975) was used to determine if the most common usage of the randomly selected word was indeed noun; words were arranged in lists according to frequency of occurrence to aid the children in selection. From the lists each child rated 24 words as known and 24 words as unknown to him/her in written form. The Knownness Ratings were conducted a day prior to the Word Choice task.

In the Knownness Rating examiners scored a word Known (K) if the child pronounced the word correctly (within the child's speech patterns) and if the child gave a gist of meaning for it appropriate to the community. The 48 words from the Knownness Rating were cast into four knownness configurations to study the effects of the child's knowing all of the words (K-KK), knowing none of the words (U-UU), or knowing either his/her word, the question word (K-UU), or knowing only the examiner's words, the choice words (U-KK), in an X:XA,XB paradigm. The four knownness configurations (K-KK, K-UU, U-KK, U-UU) and the two

presentation modes (written and oral) were counter-balanced and assigned to subjects at random.

The dependent measure was the children's explanations of choices in the Word Choice task. Children were asked to explain: "How does your word (the question word) go with my word (the choice word) for you?" Prior to the experimental task, the examiner used a sample triad, eliciting or modelling answers that were both semantic and structural in nature, high level as well as trivial. Responses and probes were recorded on individual protocols. Content analysis indicated that the intention of the responses could be reliably scored on a 3-point scale (1=structural responses; 2=unclassifiable responses; 3=semantic responses).

Independent variables were grade level, knownness of the question word, knowmness of the choice word, and model of presentation. Protocols were used for descriptive analysis of metalanguage, as well as for the quantitative analyses.

Results

In a four-way repeated measures analysis of variance children were found to give significantly more semantic responses if either the question word ($p < .01$) or the

choice word ($p < .01$) were known and if the word were in the oral rather than written mode ($p < .01$). Contrary to the results of pilot studies in which knownness was not controlled, main effects for grade were not present. Interactions were present for grade and knownness of the choice word ($p < .01$) and for grade, knownness of the choice word, and mode of presentation ($p < .05$). Two-way analyses of variance treating each knownness configuration separately again revealed no main effects for grade. Main effects were present for mode of presentation in each of the three configurations in which at least one word was unknown (K-UU: $p < .01$; U-KK: $p < .01$; U-UU: $p < .01$). Interactions between mode of presentation and grade were present in the K-UU configuration ($p < .05$) and the U-UU configuration ($p < .05$). Examination of the interactions indicated that the youngest children treated words unknown in written language more often as structural units and words in oral language more often as semantic units; by sixth grade, however, all children were responding to words unknown in written language as semantic units primarily. Because the interactions here involve assuming that the child knows the words when presented orally, one-way analyses of variance for each configuration were conducted to see if the increase in semantic responses for words in written language was significant; results were not

significant. (It should be noted that children's explanations were scored according to the judged intention of the explanation. "I can't answer because I don't know the meaning of that word," would be a semantic response.) The two-way analysis of the K-KK configuration indicated that children of all ages treated words known in written language semantically as frequently as they did words in oral language.

Descriptive analyses of the protocols were conducted to flesh out the abstraction of the statistical analyses. In particular, the protocols of those children who answered only structurally (26%) or only semantically (21%) were examined for effects of item (configuration) order or presentation mode order. No such effects could be seen; nor were there patterns according to grade level or reading level (using both instructional level of the child's reading group and the range of word lists from which the Knownness Rating was drawn as measures of reading level).

An additional use of the individual protocols was to determine the kinds of responses that children made, including their use of metalanguage. Confirming evidence was produced that these children continued to use metalanguage inaccurately even in sixth grade, particularly in reference to structural aspects of words. Two

strategies in dealing with word meanings became evident by fourth grade. Children would project a meaning onto an unknown word or would create a hypothetical context for an unknown word. In using these strategies in dealing with unknown words semantically, fourth and sixth graders used metacognitive language, or language about their thought processes. They used metalinguistic terms less frequently when giving semantic responses than when giving structural responses.

Discussion

In view of previous research it is interesting that the effect of grade level was non-signficant. The absence of a main effect for grade when we know children learn more words and word meanings as they grow older underlines the issue of whether there is a single semantic concept corresponding to "word" that would be manifested as a straight developmental trend or whether the notion of word for children depends upon the mode of presentation or other features such as knownness, as indicated by these results. In controlling for word knownness, this study fits with other current research and theory which throws doubt on learner characteristics previously believed to increase (as a

main effect) with age (Richman, Nida, & Pittman, 1976; Brown, 1975). The study needs to replicated and also include more sensitive controls over word knownness, extending to both the oral and written presentation mode.

The descriptive analysis indicated that sixth grade children (and, to some extent, fourth grade children) were able to control strategies of projecting meaning onto unknown words and of creating hypothetical contexts in which unknown as well as known words would "make sense," using the child's intention as the measure. Examinations of the interactions for written and oral presentation modes with grade level indicate that the means come together at sixth grade. Replication of the study should include an extension upward into adolescence to see if main effects for grade level should appear from sixth grade upward. Indeed it might be predicted that the results for written and oral modes would be the same for all configurations after sixth grade, as they are for K-KK in first through sixth grades. It can be argued that with the known words (K-KK) the child does not have to invoke any meaning creation strategies; whereas, in all three of the other configurations (K-UU, U-KK, U-UU), s/he must.

The descriptive data raise the question of whether children who are reading in school tasks would not benefit from greater understanding of and use of metalanguage. Given the state of research in reading methodology, we have little evidence now. Linnea Ehri's contention (1976) that to teach metalanguage as a prerequisite to reading is unwarranted seems reasonable; children in this study who had learned to read successfully were learning more about the referents of metalanguage during and not just prior to their contacts with written language. The only immediate implication that could be drawn from this study for teaching is that teachers should try to learn what their students, individually, understand about and mean by the metalinguistic terms used in school tasks.

References

Anglin, J. M. The growth of word meanings. Cambridge, Mass.: MIT Press, 1970.

Bates, E. Language and context: The acquisition of pragmatics. New York: Academic Press, 1976.

Brown, A. L. The development of memory: Knowing, knowing about knowing, and knowing how to know. In H. W. Reese (Ed.), Advances in child development and behavior, Vol. 10. New York: Academic Press, 1975.

Clark, H. H. The language-as-a-fixed-effect fallacy: A critique of language statistics in psychological research. Journal of Verbal Learning and Verbal Behavior, 1973, 12, 335-359.

Ehri, L. C. Do words really interfere in naming pictures? Child Development, 1976, 47, 502-507.

Ehri, L. C. Word consciousness in readers and pre-readers. Journal of Educational Psychology, 1975, 67, 204-212.

Ehri, L. C. Word learning in beginning readers and prereaders. Paper presented at the American Educational Research Association, New York City, April 1977.

Garvey, C. The contingent query: A dependent act in conversation. In M. Lewis & L. A. Rosenblum (Eds.), Interaction, conversation, and the

development of language. New York: John Wiley & Sons, 1977.

Gibson, E. J. Perceptual learning and the theory of word perception. Cognitive Psychology, 1971, 2, 351-368.

Golinkoff, R. M., & Rosinski, R. R. Decoding, semantic processing, and reading comprehension skill. Child Development, 1976, 47, 252-258.

Harris, A. J., & Jacobson, M. D. Basic vocabulary for beginning reading. Reading Teacher, 1973, 26, 392-395.

Holden, M. H., & MacGinitie, W. H. Children's conceptions of word boundaries in speech and print. Journal of Educational Psychology, 1971, 63, 551-557.

Karpova, S. N. Osoznanie slovesnogo sostava rechi rebenkom doshkol'nogo vozrasta (The preschoolers' realization of the lexical structure of speech). Voprosy Psikhologii, 1955, 4, 43-55. Abstracted in F. Smith & G. A. Miller (Eds.), The genesis of language. Cambridge, Mass.: MIT Press, 1966.

Mason, J. M. Questioning the notion of independent processing stages in reading. Technical Report No. 8. Urbana, Ill.: Center for the Study of Reading, 1976.

Mason, J. M. The roles of orthographic, phonological, and word frequency variables on word-nonword decisions.

American Educational Research Journal, 1976, 13, 199-206.

Mickish, V. Children's perceptions of written word boundaries. Journal of Reading Behavior, 1974, 6, 19-22.

Naron, N. K. Developmental changes in word attribute utilization for organization and retrieval in free recall. Journal of Experimental Child Psychology, in press.

Papandropoulou, I., & Sinclair, H. What is a word? Experimental study of children's ideas on grammar. Human Development, 1974, 17, 241-258.

Richman, C. L., Nida, S., & Pittman, K Effects of meaningfulness on child free-recall learning. Developmental Psychology, 1976, 12, 460-465.

Rosinski, R. R., Golinkoff, R. M., & Kukish, K. S. Automatic semantic processing in a picture-word interference task. Child Development, 1975, 46, 247-253.

Sheldon basic reading series. Boston: Allyn & Bacon, 1968.

Spache, G. Good reading for poor readers. Champaign, Ill.: Garrard, 1968.

The American heritage dictionary of the English language. Boston: Houghton Mifflin Company, 1975.

Thorndike, E. L., & Lorge, I. The teacher's word book of 30,000 words. New York: Teacher's College Press, 1944.

Tovey, D. R. Children's perceptions of reading. Reading Teacher, 1976, 29, 536-540.

Wickens, D. D. Characteristics of word encoding. In A. W. Melton & E. Martin (Eds.), Coding processes in human memory. Washington, D. C.: H. V. Winston & Sons, 1972.

Wickens, D. D. Encoding characteristics of words: An empirical approach to meaning. Psychological Review, 1970, 77, 1-15.